

REMARKS

The following remarks regard a patent application number US5584141 by Johnson Neil W. that has been brought to the Applicant's attention. The following remarks are targeted at clarifying the distinction between the applicant's invention and Johnson's.

Johnson's application discloses an apparatus for growing plants that includes a frame, a main carriage mounted to the frame and a drive mechanism for causing rotation of the main carriage, where a plurality of satellite carriages is mounted to the main carriage. According to Johnson:

"Apparatus for maximizing the number of plants that can be grown in a greenhouse environment, comprising: a frame; a main carriage rotatably mounted to the frame for rotation about a main axis; drive means for causing rotation of the main carriage at a preselected rate; a plurality of satellite carriages rotatably mounted to the main carriage for rotation about satellite axes parallel to the main axis; synchronization means for causing the satellite carriages to rotate at a rate having a preselected ration relative the rotation rate of the main carriage, the ratio being chosen for optimal plant growth of particular species and sizes of plants in available sunlight conditions of the greenhouse environment; and retainer means for retaining plants mounted to the each of the satellite carriages."

[Johnson Neil W., claim 1]

Johnson's application does not disclose an external wheel that supports the satellite carriages, where the external wheel connects to the holding or supporting mechanism (rather than the central or main wheel – as in Johnson's application). The Applicant's additional external wheel enables independent satellite rotation of the assemblies (or the carriers) around the external wheel's axis where the main rotating mechanism allows the carriages or assemblies to rotate around their own axes in a planetary rotation independently from the satellite rotation. In Johnson's application, on the other hand the satellite and planetary rotation of the carriages is dependent.

Additionally, the holding or supporting member (defined as a frame) in Johnson's application, is directly connected to the main carriage, whereas in the Applicant's application the external wheel is supported by the holding member (defined as a stand) through bearings

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that enable the rotation of the external wheels to allow differentiating and separating the rotation direction of the external wheels from the rotation direction of the central rotation mechanism that allow rotating the assemblies (carriages) in a planetary movement around their own central axis..

According to the Applicant's application, at least one of the external wheels is rotating the entire apparatus – rotating the satellite carriage regarded by the Applicant as "secondary wheel assemblies" around the axis of the external wheel. This may facilitate in levering the starting rotation movement after a reloading of the cultivation beds is performed or any other operation that stops the rotation of the satellites around the center axis. In Johnson's application, a central wheel or a rotating shaft carries out the entire rotation, including the rotation of the satellite carriages around the central axis. A lot of power may be exerted from the motor to rotate, especially after reloading the cultivation beds, where a larger torque is required, and this power may grow in proportion to the distance (radius) between the satellites and the central shaft. Rotating the entire apparatus by the external wheel or external wheels may reduce the power required to start the rotation and may even reduce the overall power required to continue the rotation.

Additionally, the Applicant's application discloses a cultivation system that enables rotating each series of un-successive assemblies in opposite planetary movement – where the assembly (satellite) rotates around themselves. These opposite rotation movements are enabled when each series is connected to a central wheel (which may be the central rotating mechanism), for example, through a separate gear set that uses the same motor torque force to rotate each series at an opposite rotation direction. The Applicant discloses additional mechanisms to achieve the same effect such as installing of separate motors that may rotate each series separately and independently, for example.

Additionally, the Applicants applications allows adding of more external and central wheels where the pairs of external-central wheels are substantially parallel and where all the external wheels are seated upon bearings supported by stands. The additional pairs may contribute to the apparatus's stability and strength.

Moreover, Johnson's invention does not discuss mechanisms to enable each satellite carriage to move in separate speed and/or direction than other carriages connected to the

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same apparatus. The Applicant's invention discloses that each assembly (the satellite carriage) may be connected to separate rotating mechanisms (such as a motor and a gear set) to allow separately rotating each carriage.

In view of the foregoing amendments and remarks, the pending claims are deemed allowable. Their favorable reconsideration and allowance is respectfully requested.

Should the Examiner have any question or comment as to the form, content or entry of this Preliminary Amendment, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

Respectfully submitted,

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Dated: September 10, 2008